

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001962**Date Inspected:** 15-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wie**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Deck Panels**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG bay 1 (Gantry 1)

QA observed ZPMC qualified welding personnel perform the SAW welds joining the closed U-Ribs to deck panels DP-460-001 and DP-487-001. QA observed 5 ZPMC QC inspectors in the vicinity of the welding operations including ZPMC CWI identified as Sun Wie. There were also 4 American Bridge/Fluor (ABF) inspectors in the area as well. QA and QC inspectors performed a random visual inspection of the GMAW root welds on these panels. All completed GMAW welds appeared to meet the requirements of the contract documents. QA and QC monitored the welding process continuously throughout the evening. QA completed a production panel welding reports for deck panels DP-379-001 and DP-325-002. The reports are on file in the Caltrans QA office. The welder identifications and the welding parameters as measured with the calibrated gages on the machines appeared to be in conformance with the posted WPS's and were as follows:

DP-487-001 SAW

Volts: 24.3 – 25.6 Amps: 679 – 691 Travel speed: 510 - 515mmpm

Welder ID#'s

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Weld joint 1: 059468
Weld joint 2: 059464
Weld joint 3: 059468
Weld joint 4: 059464
Weld joint 5: 062265
Weld joint 6: 059361

DP-460-001 SAW

Volts: 24.2 – 25.6 Amps: 667 – 687 Travel speed: 515mmpm

Welder ID#'s

Weld joint 1: 059443
Weld joint 2: 059403
Weld joint 3: 059468
Weld joint 4: 059464
Weld joint 5: 059468
Weld joint 6: 059464
Weld joint 7: 062265
Weld joint 8: 059361
Weld joint 9: 062265
Weld joint 10: 059361

Gantry 2 (idle)

QA performed visual verification inspection for completed welds on deck panel DP-326-001. All welds that were inspected appeared to exhibit some degree of undercut, lack of fusion, overlap, oversize and/or under fill. Weld # 7 on this deck panel appears to have an area of over-lap measuring approximately 6250mm in length. All of the completed Partial Joint Penetration (PJP) welds joining U-Rib to deck plate that have inspected on this panel do not appear to comply with the visual acceptance criteria specified in AWS D1.5 2002 and the contract documents and have been rejected by ZPMC and ABF QC inspectors. QA completed a Caltrans QA visual verification weld inspection report for the OBG deck panel mentioned above. The report is on file in the Caltrans QA office.

QA performed visual verification inspection for completed welds on deck panel DP-325-002 welds W1, W2 and W3. All welds that were inspected appeared to exhibit some degree of undercut, lack of fusion, overlap, oversize and/or under fill. All of the completed Partial Joint Penetration (PJP) welds joining U-Rib to deck plate that have inspected on this panel do not appear to comply with the visual acceptance criteria specified in AWS D1.5 2002 and the contract documents and have been rejected by ZPMC and ABF QC inspectors. QA completed a Caltrans QA visual verification weld inspection report concerning only the welds that were verified for the OBG deck panel mentioned above. The report is on file in the Caltrans QA office.

Other general observations by QA were as follows:

QA observed ZPMC has approximately 60-70 workers performing various functions relative to the fabrication

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of the OBG Deck Panels. These functions include; closed rib press forming, hole drilling at ends of U-Ribs using a drill template, PJP bevel preparation, closed rib splice FCAW welding, closed rib diaphragm fit-up and FCAW welding, closed rib to deck plate fit-up and tack welding.



Summary of Conversations:

Only general conversations were held between QC inspectors and QA concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry (858)-344-2712, who represents the Office of Structural Materials for your project.

Inspected By:	Hall,Steven	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
